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MOTSINGER, SEAN T	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,203	INADA, YOHICHI	
	Examiner	Art Unit	
	Sean Motsinger	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36 and 38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36 and 38* is/are rejected.

7)☒ Claim(s) *5-8, 16-19, 26-28, and 32-34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 September 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Applicants Arguments/Amendments

1. Applicants Arguments/Amendments filed on 9/26/2007 have been entered and made of record and are considered below.

2. Regarding Applicants arguments to the objections to the drawings, objections to the specification, the rejections under 35 U.S.C. 112 First paragraph, and the rejections under 35 U.S.C. 112 second paragraph, these objections/rejections appear to be argued collectively as a group by applicant and are argued based on claim terms referenced in the examiners rejection. It is not always clear which of said rejections/objections applicant is referring to in his arguments. Therefore below the examiner has considered each of applicant's arguments with respect to the claim terms as best as possible.

3. Applicants arguments with respect to scanning and searching have been fully considered by the examiner but are not found to be persuasive. Applicants arguments with respect to scanning appear to both contradict themselves and contradict well established definitions for the words. Therefore the examiner believes the specification as filed is still not enabling and the claims still unclear under 35 U.S.C. 112 first paragraph. Merriam Webster's Dictionary defines the word scan (inflected form scanning) as 1: to read or mark so as to show metrical structure <*scan* poetry>2: to examine by point-by-point observation or checking: **a:** to

investigate thoroughly by checking point by point and often repeatedly <a fire lookout *scanning* the hills with binoculars> **b:** to glance from point to point of often hastily, casually, or in search of a particular item <*scan* the want ads looking for a job>3 a: to examine systematically (as by passing a beam of radiation over or through) in order to obtain data especially for display or storage <*scanned* the patient's heart> <radar *scans* the horizon> <*scan* the photos into the computer> **b:** to pass over in the formation of an image <the electron beam *scans* the picture tube>*intransitive verb.* Yet Applicants argument Scanning refers to the order or direction in which coefficients are considered. This does not appear to be in any way consistent with the definitions above. As best understood by the examiner "scanning" is an action not an order. Scanning can have an order as made clear by definition 3 but clearly does not refer to an order. Applicants cited section of the specification, "block register 21 is inversely zigzag scanned to search a valid coefficiant" does not appear to support his argument. Clearly inverse Zigzag is the order and scanning is some sort of action not an order. In applicant's arguments (see page 22 last paragraph) and in for example claim 1 "scanning" is referred to as an operation. In light of applicants arguments it is still unclear to the examiner the difference between scanning and searching and what each of these operations entail (i.e. what are the inputs and outputs of a scanning

operation, and what are the inputs and outputs of a searching operation). Since answers to these questions do not appear to be define in the specification as originally filed, it does not enable one of ordinary skill in the art to understand what scanning and searching are. Furthermore scanning operations are purportedly show in figure 5 and search operations are controlled by search control device 24 in figure 2 Search device 24. This does not sufficiently depict a searching operation instead depicts what controls it.

4. Applicants arguments with regard to first control device, second control device, have been fully considered and are found persuasive with respect to the 35 U.S.C. 112 rejections. *However the examiner strongly suggests amending the specification to indicate clearly which device is the first control device and which is the second control device.*

5. Applicants arguments with regard to presearching have been fully considered but are not found to be persuasive. The specification never defines or describes what is meant by the word presearching in any way. Applicant argues that paragraphs 83 85 and 95 describe presearching, however none of these paragraphs as originally filed make any reference to presearching.

6. Applicants arguments with respect to and Isolated valid coefficient being moved have been considered and are found persuasive with regard to the objection to the claims however are not found persuasive with respect to the rejections under 35 U.S.C. 112. Applicant only refers to the statement found in the objection to the specification which examiner states isolated value coefficient instead of isolated valid coefficient. The objection to the specification is withdrawn. However since there is no significant discussion of the rejection under 35 U.S.C. 112 first and second paragraph these rejections are maintained. Furthermore to overcome the rejection applicant cites a section of the specification which has been significantly amended.

7. Applicnats argument with regard to Quantization table have been fully considered and are found persuasive the corresponding objections and rejections are withdrawn.

8. Applicants arguments with respect to other claim features applicants arguments have been not found persuasive with regard to claims 5 and 26, 23, 25, 27 and 28, 8 and 19. Claim 5 and 26 rely on a newly added drawing to provide support for claim 5 and 26. Claim 23 contains the same issues with

scanning and searching as described above. The claim has been amended to clarify it however the claim relies on fig 4 for support figure 4 does provide adequate support for said claim features therefore they are unclear and new matter. Claim 25 applicant argues that presearching is shown in element 40 this is unclear to the examiner because element 40 is a control device. Claim 27 and 28 applicant relies on figure 6 A for support, Figure 6A is not in the specification as originally filed.

9. Applicants arguments with respect to claim 24 have been considered but are not found persuasive. Applicant has amended claim 24 to make it more clear. However figure 4 does not fully this claim element.

10. Applincats argument with respect to other claim features with regard, 8 and 19 have been considered and found persuasive. With respect to the connection (cited with claims 8 and 19 although this is not mentioned in the arguments) examiner agrees that in light of a solid line in figure 6 representing a plurality of "OR circuits" It is clear from figure 7 that f8 is an "OR circuit" connection of nets f9-f15 in figure 6.

11. Applincats arguments with respect to the rejections under 35 U.S.C. 101 has been fully considered and is found persuasive. Applicants amendments have resolved the examiners rejections.

12. Aplicants arguments with respect to the prior art have been consider but are not found persuasive. Applicants argument centers around the correction level. Applcaint seems to claim that the correction level cannot be a specified energy level, but must be instead a "specific number of corrections or modifications to the coefficients." However this limitation is not specifically recited in claim 1. However the examiner further notes applicants argument may not apply to claims rejected under 35 U.S.C. 103 as they only discuss one reference.

Objections to the Specification

13. The disclosure is objected to because of the following informalities: 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: Scanning and searching are not used inconsistently throughout the specification and it is not clear if they are different or

what they are referring to. For example "The valid coefficient (r13 with 1 value) initially searched by the inverse zigzag scan is modified to 0 (Steps 103 and 104). At the same time, the correction counter 23 is counted up from 0 to 1 (Step 104)" see page 18. But claim 1 claims a search operation and a scanning operation separately. Every use of scan(scanning scanned ect.) or search(searching searched ect.) must be explained or corrected in the specification and claims to clarify its meaning and an argument to show how such changes were disclosed in the specification as originally filed and how they relate to the searching and scanning in every claim which mentions searching or scanning. Because of similar numerous errors the specification is not clear and it is difficult to understand the specification. The specification should be fully cheeked for errors and corrected so as one of ordinary skill in the art can understand it and it appropriately coincides with the claim language.

14. The amendment filed 11/26/2003 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

15. Amendments to paragraph bridging pages 3 and 4 "Labels r00, r01, r02...." This added material is not supported by the specification as originally filed.

16. Amendments to lines 6 and 7 of page 6 and figure 5A. Figure 5 is not properly supported by the specification as the section of the specification purportedly relied upon to support it in were indicated are also significantly amended.

17. Amendments to page 18 line 9 though page 19 line 1. The examiner does not believe that "initially searched" discloses "found in the search"

18. Amendments to page 19 line 16 through page 20 line 5, searched does not support found. Furthermore amendments further describing moving a pixel are not fully supported by the disclosure as originally filed.

19. Amendments to page 20 line 15 through page 22 line 8 the second to late paragraph contains numerous changes not fully supported by the disclosure as originally filed.

20. Amendments to page 24 lines 21 through page 25 line 12 the summing step is not supported by the disclosure as originally filed.

21. Applicant is required to cancel the new matter in the reply to this Office Action.

Objections to the Drawings

22. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the scanning and searching operations in claim 1, the first control mechanism and second control mechanism in claim 4, a drawing depicting the function of consecutively arranging of isolated valid coefficients in claim 5, the plurality logical OR circuits of claim 6, a

plurality of logical or circuits equal to the number of the plurality of frequencies in claim 7, the connecting of the logical or circuits in claim 8, the step of performing an inverse zig zag scan, "to search a valid coefficient," and "continually performing an inverse zig zag scan," "counting a number of searched valid coefficients" and "modifying a subsequent serched valid coefficient to the invalid coefficient" in claim 23, the step of "when a valid coefficient is modified..." in claim 24, the presearching step in claim 25, the address moving step in claim 26, the calculating a total sum step in claim 27, the summing up step in claim 28 (note these features are also included in other claims) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

23. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the

changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Rejections Under 35 U.S.C. 112 First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

24. Claims 1-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

25. Re claim 1 and 12 the terms scanning and searching are used so inconsistently through out the claims and specification it is impossible to tell why at exactly applicant intends by scanning and/or searching and how if all they are different. Claims 2-88 and 13-22 are rejected because they depend from these claims. (For further explanation see response to arguments above.

26. Re claim 5 and 16 the term isolated valid coefficient is never really defines in the specification what an "isolated valid coefficient" is, or how the "address" is "moved" while the knowledge of which coefficient it is can be maintained while moving it. In fact almost all references to the isolated valid coefficient are mere recitations of claim language. To the understanding of the examiner the only real mention of if it is on page 19 of the specification where it cites figure 4 and the r13 and r22 pixel which is not in figure 4 which appears to have nothing to do with limitation.

27. Re Claim 23, 29, 35, and 36, in claim 1 scanning and searching are disclosed differently however here scanning and searching appear to be disclosed in as the same i.e. "performing an inverse zigzag scan for scanning the block register to search a valid coefficient" one of ordinary skill in the art would not understand how searching and scanning are be different yet the same. Furthermore applicant discloses incrementing the number valid coefficients by one. It is unclear what is number of valid coefficients this is only mention in the specification as a repetition of claim language? Also the definition of searched valid coefficients and searched coefficients are not clear. One of ordinary skill in the art would not be able to determine if these are the same. Also it makes no sense the number of valid coefficients is incremented when a valid coefficient is changed to an invalid one. Claims 24-28 and 30-34 are rejected for depending from these claims.

28. Re claims 24 and 30 it is not clear what threshold is being considered in steps d and f and how this threshold is relevant examiner understanding of claim 23 is that all valid coefficients all modified in steps d and f are modified to invalid coefficients. Therefore modified coefficients below any threshold appear to be modified. It is not clear what exactly applicant is trying to claim and the specification provides insufficient support enabling one to understand how to implement this step.

29. Re claim 25 and 31 applicant performs a presearching step before the search step. However it is not clear what the search step is (none is claimed in claim 23 or 29) and "presearching" is only mentioned in repetitions of the claims and nowhere is it clear what "presearching" how it is searching, what it is searching for or what is done if something is found.

30. Re claim 26 and 23 these claims have the same issues with isolated valid coefficients as claims 5 and 16

31. The claims not mentioned are rejected for depending from these claims, and referring to the non-enabled features.

32. Claim27-37 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

33. Claims 23-37 are all rejected for claiming subject matter not filed in the original disclosure. Claim 23 29 35 and 36 contains the elements "counting a number of said valid coefficients found." The specification as originally filed does not disclose counting the number of valid coefficients found. Furthermore "continuing the inverse zig zag scan to search for additional valid coefficients when the number of valid coefficients smaller then the correction level in step a" This element is not supported by the specification. This claim element also makes no sense because the number of valid coefficients will never be known if the search/scan is not yet completed. The remaining claims are not supported because they depend from these claims

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

34. Claims 1-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. For the purposes of examination examiner will also interpret that "a searching operation" some how means selecting a coefficient.

35. Re claim 1 and 12 the terms scanning and searching are used so inconsistently through out the claims and specification it is impossible to tell what exactly applicant intends by scanning and/or searching and how if all they are different. For the purposes of examination examiner will also interpret that "a search operation" some how means a correcting or selecting a valid coefficient. Claims 2-88 and 13-22 are rejected because they depend from these claims.

36. Re claim 5 and 16 the term isolated valid coefficient is never really defines in the specification what an "isolated valid coefficient" is, or how the "address" is "moved" while the knowledge of which coefficient it is can be maintained while moving it. In fact almost all references to the isolated valid coefficient are mere recitations of claim language. To the understanding of the examiner the only real mention of if it is on page 19 of the specification where it cites figure 4 and the r13 and r22 pixel which is not in figure 4 which appears to have nothing to do with limitation.

37. Re Claim 23 29 35 and 36, in claim 1 scanning and searching are disclosed differently however here scanning and searching appear to be disclosed in as the

same i.e. "performing an inverse zigzag scan for scanning the block register to search a valid coefficient" one of ordinary skill in the art would not understand how searching and scanning can be different yet the same. Furthermore applicant discloses incrementing the number valid coefficients by one. It is unclear what is number of valid coefficients this is only mention in the specification as a repetition of claim language? Also the definition of searched valid coefficients and searched coefficients are not clear. One of ordinary skill in the art would not be able to determine if these are the same. Also it makes no sense that the number of "valid coefficients" is incremented when a valid coefficient is changed to an invalid one. Furthermore it is not know what is meant by "the collection level," it is believed that is it meant to be the "correction level." For the purposes of examination examiner will also interpret that "a searched valid coefficient" some how means a corrected or selected valid coefficient. Claims 24-28 and 30-34 are rejected for depending from these claims.

38. Re claims 24 and 30 it is not clear what threshold is being considered in steps d and f and how this threshold is relevant examiner understanding of claim 23 is that all valid coefficients all modified in steps d and f are modified to invalid coefficients. Therefore modified coefficients below threshold appear to be modified. It is not clear what exactly applicant is trying to claim and the specification provides insufficient support to make this step clear.

39. Re claim 25 and 31 applicant performs a presearching step before the search step. However it is not clear what the search step is (none is claimed in claim 23 or 29) and presearching is only mentioned in repetitions of the claims and nowhere is it clear what presearching how it is searching, what it is searching for or what is done if something is found. For purposes of applying prior art examiner is interpreting claim 25 not to include the presearching step.

40. Re claim 26 and 32 these claims have the same issues with isolated valid coefficients as claims 5 and 16

41. Claims 23-37 are unclear because they claim subject matter not filed in the original disclosure. Claim 23 29 35 and 36 contains the elements "counting a number of said valid coefficients found." The specification as originally filed does not disclose counting the number of valid coefficients found. Furthermore "continuing the inverse zig zag scan to search for additional valid coefficients when the number of valid coefficients smaller then the correction level in step a" This element is not supported by the specification. This claim element makes no sense because the number of valid coefficients will never be known if the search/scan is not yet completed. The remaining claims are unclear because they depend from these claims

42. The claims not mentioned above are rejected for depending from the above rejected claims.

Rejections Under 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

43. Claims 1-3, 9-10, 12-14, 20-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Mukherjee US 2003/0123740.

44. Re claim 1 Mukherjee discloses An information compression apparatus which compresses information and uses a DCT frequency conversion algorithm, comprising: a plurality of block registers which store (note the data must be stored so that further processing can be done see paragraph 41) block based multi-bit quantized data (note the data is quantized see paragraph 41) converted from the information output from an quantization execution module (quantize paragraph 38); a correction level register which presets a correction level (predetermined threshold paragraph 79) indicating a degree of data correction (enegy paragraph 79); a first control (note the system must have controller) mechanism which controls operations

of said apparatus so as to perform a scanning operation for scanning (reverse zig-zag scanning paragraph 55) the plurality of block registers in a scan order and a search operation (finding a coefficient paragraph 57) for searching each block in the scan according to said scan order a valid coefficient (non-zero coefficient paragraph 57); and a data correction mechanism (modifies paragraph 30) to modify the valid coefficient (non-zero coefficient paragraph 30) found in the search operation of the block searched by the first control mechanism to an invalid coefficient (zero coefficient see paragraph 30) based on the correction level stored in the correction level register (energy threshold paragraph 79).

45. Re claim 2 Mukherjee further discloses wherein the valid coefficient is a coefficient having any coding amount except zero (not zero paragraph 57).

46. Re claim 3 Mukherjee further discloses wherein the scanning operation includes an inverse zigzag operation (see paragraph 55.)

47. Re claim 9 Mukherjee further discloses the information compression apparatus as defined in claim 1, wherein the apparatus uses a Huffman coding method (jpeg paragraph 31 note JPEG compression includes Huffman coding).

48. Re claim 10 Mukherjee further discloses wherein the apparatus uses a JPEG coding method (see paragraph 31).

49. Re claim 12-14 and 20-21 these claims are similar to claims 1-3 and 9-10 only using means for language however the claims recite is sufficient structure in the claim such that 35 U.S.C. 112 6th paragraph is NOT invoked. Furthermore due to similarity these claims are rejected for the same reasons as claims 1-3 and 9-10.

Rejections Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

50. Claims 4, 15, 23-25 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee in view of Kim US 5,793,893.

51. Re claim 4 Mukherjee discloses all of the elements of claim 1 Mukherjee does not disclose further comprising a second control device configured to recieve multi bit quantized data output from the quantized execution module before the multi-bit quantized data is transmitted to the plurality of block registers and after said second control device receives the multi,bit quantized data cause the first control mechanism to start the search operation. While Mukherjee must have at least one

control device, Kim discloses a system with 2 control devices, i.e. a second control device (note the system must have some main controller) which receives multi bit quantized data output from the quantized execution module before the multi-bit quantized data is transmitted to the plurality of block registers and causes the first control mechanism (masking control see figure 1 note this controller controls only the masking i.e. the scanning and selecting steps see claim 4) to start the search operation. The motivation to combine is to "reduce the volume of transmission data in order to efficiently implement a low-bit rate codec" (see column 2 lines 10-15.) Therefore it would have been obvious to one of ordinary skill in the art to combine Mukherjee with Kim to reach the aforementioned advantage.

52. Re claim 15 this claim is similar to claim 4 only using means for language however the claims recite is sufficient structure in the claim such that 35 U.S.C. 112 6th paragraph is NOT invoked. Furthermore due to similarity these claims are rejected for the same reasons as claims 4.

53. Re claim 23 Mukherjee discloses an information compression method for compressing information and using a DCT frequency conversion algorithm, comprising the steps of: presetting a predetermined correction level indicating a degree of data correction (energy threshold see paragraph 71); latching quantized data including valid coefficients and invalid coefficients into a block register (note the quantized coefficients must be stored to perform further processing; performing an

inverse zigzag scan (see paragraph 57) for scanning the block register to search a valid coefficient (find the first coefficient not quantized to zero paragraph 57) said quantized data latched in said block register in step b to find one or more valid coeffefficiants; modifying a valid coefficient found in step c to an invalid coefficient (push the coefficient to zero paragraph 57); searching for and finding another valid coefficient and modifying said another valid coefficient to the invalid coefficient (process is repeated paragraph 61); continuously performing the inverse zigzag scan when correction is smaller than the correction level in the presetting step (continuing until the threshold is exceeded paragraph 79); and transferring the data of the block register to a coding module (encoder paragraph 59) when the number of valid coefficients reaches the correction level (note the coding is done after the modification).

54. Mukherjee does not disclose counting a number of searched valid coefficients; incrementing the number of valid coefficients by one; and where the correction level is the number of searched (examiner interprets as modified) coefficients counted in the counting step.

55. Kim discloses counting a number of searched (examiner interprets as modified) valid coefficients (see claim 4 note that the number of coefficients set to zero must be counted); incrementing the number of modified valid coefficients by one (see claim 4 note number of converted coefficients must be counted); and where the correction level is the number of searched (examiner interprets as modified)

coefficients counted in the counting step (see claim 4 note the number of coefficient set to zero is determined by a predefined number M).

56. The motivation to combine is to "reduce the volume of transmission data in order to efficiently implement a low-bit rate codec" (see column 2 lines 10-15.) Therefore it would have been obvious to one of ordinary skill in the art to combine Mukherjee with Kim to reach the aforementioned advantage.

57. Re claim 24 Mukherjee further discloses wherein when a valid coefficient is modified to steps d and f valid coefficients smaller than a predetermined threshold value are modified to an invalid coefficient (all coefficients selected are modified therefore all coefficients smaller then any threshold are modified.)

58. Re claim 25 since examiner has interpreted claim 25 to not include a presearching step due to the unclear claim there is no further limitation from claim 23 and claim 25 is rejected with the same rejection.

59. Claims 29-31 and 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee in view of Kim in further view of common knowledge in the art.

60. Re claims 29-31 these claims recite computer code to perform the method of claims 23-25. Mukherjee and Kim disclose the method of claims 23-25 but does not

disclose the method of claims 23-25 preformed via a computer program, however, examiner is taking official notice that it is notoriously well known to perform such methods in a computer program and store them on CD's. The motivation to combine is to easily distribute perform such methods on a device with a computer processor. Therefore it would have been obvious to one of ordinary skill in the art to combine Mukherjee and Kim with common knowledge in the art to reach the aforementioned advantage.

61. Re claims 35 these claims recite computer code to perform the method of claims 23 and using a JPEG encoding method. Mukherjee and Kim disclose the method of claims 23 and JPEG (see paragraph 31) but does not disclose the method of claims 23 preformed via a computer program, however, examiner is taking official notice that it is notoriously well known to perform such methods in a computer program and store them on CD's. The motivation to combine is to easily distribute perform such methods on a device with a computer processor. Therefore it would have been obvious to one of ordinary skill in the art to combine Mukherjee and Kim with common knowledge in the art to reach the aforementioned advantage.

62. Re claim 38 Mukherjee discloses all of the elements of claim 1 Muckherjee does not disclose wherein said correction level preset by said correction level register corresponds to a number of data corrections, and valid coefficients in said quantized data stored in said plurality of block registers are modified to invalid coefficients until

the number of modifications reaches the correction level preset in the correction level register.

63. Kim discloses wherein said correction level preset by said correction level register corresponds to a number of data corrections (M note M is the number of frequency conversions see claim 4), and valid coefficients in said quantized data stored in said plurality of block registers are modified to invalid coefficients (zero see claim 4) until the number of modifications reaches the correction level preset in the correction level register (M see claim 4).

64. The motivation to combine is to "reduce the volume of transmission data in order to efficiently implement a low-bit rate codec" (see column 2 lines 10-15.) Therefore it would have been obvious to one of ordinary skill in the art to combine Mukherjee with Kim to reach the aforementioned advantage.

65. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee in view of Dick US 6,460,061

66. Re claim 11 Mukherjee discloses all of the elements of claim 1 Mukherjee does not disclose wherein the apparatus uses a sound data coding method. However Dick discloses wherein the apparatus uses a sound data coding method (column 7 lines 40-50.) Note that dick discloses that the 2D DCT can be used to encode sound, therefore one of ordinary skill in the art would be motivated to use the method of Mukherjee to compression sound at a reduced bit rate see Mukherjee paragraph 30.

Therefore it would have been obvious to one of ordinary skill in the art to combine Mukherjee with Dick to reach the aforementioned advantage

67. Re claim 22 this claim is similar to claim 11 only using means for language,e however the claims recite is sufficient structure in the claim such that 35 U.S.C. 112 6th paragraph is NOT invoked. Furthermore due to similarity these claims are rejected for the same reasons as claims 11.

68. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee in view of Kim in view in view of common knowledge in the art in further view of Dick.

69. Re claim 36 This claim is the same as claim 29 exept for this time a sound data coding method is used. Mukherjee Kim and common knowledge in the art discloses all of the elements of claim 29 (see rejection for claim 29), they does not disclose wherein the apparatus uses a sound data coding method. However Dick discloses wherein the apparatus uses a sound data coding method (column 7 lines 40-50.) Note that dick discloses that the 2D DCT can be used to encode sound, therefore one of ordinary skill in the art would be motivated to use the method of Mukherjee to compression sound at a reduced bit rate see Mukherjee paragraph 30. Therefore it would have been obvious to one of ordinary skill in the art to combine Mukherjee with Dick to reach the aforementioned advantage.

Allowable Subject Matter

70. Claims 5-8, 16-19 26-28 and 32-34 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st and 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

71. Re claims 5,16, 26, 32 these claims contain allowable subject matter because the prior art of record does not "move the addresses of the isolated valid coefficients...so that the isolated valid coefficients are arranged consecutively"

72. Re claims 6 and 17 these claims contain allowable subject matter because the prior art of record does not disclose "a plurality of logical or circuits.... Such that each of the plurality of or circuits outputs one when any one of the block registers connected thereto has a valid coefficient." Claims 7-9 and 18-19 contain allowable subject matter because they depend from claims 6 and 17.

73. Re claims 27 and 33 these claims contain allowable subject matter because the prior art of record does not disclose a "calculating step for calculating a total sum of coefficients of block registers arranged along each scanning line corresponding to

one of different frequencies used in the DCT frequency conversion algorithm, and a start address changing step for changing an address of the block register to start the inverse zigzag scan." Claims 28 and 34 contain allowable subject matter because they depend from these claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Motsinger whose telephone number is 571-270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Motsinger
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